

WHAT IS CLAIMED IS:

1. A thermal interface comprising:
a first surface;
a second surface; and
a plurality of elongate fibers in the space between and in contact with at least one of said first surface and said second surface, wherein at least some of said fibers have a cross sectional diameter of less than approximately 1 micron.
2. The thermal interface of Claim 1, wherein said fibers having a cross sectional diameter of less than about 1 micron are bonded to a portion of other fibers having a cross sectional diameter of greater than approximately 3 microns.
3. The thermal interface of Claim 2, wherein said portion comprises the tips.
4. The thermal interface of Claim 1, wherein at least some of said fibers comprise multi-walled nanotubes.
5. The thermal interface of Claim 1, wherein said fibers extend from at least one side of a metal membrane.
6. The thermal interface of Claim 5, wherein said fibers extend from both sides of said metal membrane.
7. A method of making a thermal interface comprising attaching whiskers having a diameter of less than about 1 micron to the tips of fibers having a diameter of greater than about 3 microns.
8. The method of Claim 7, wherein the whiskers and the fibers both comprise carbon.
9. A method of transferring heat away from a heat source comprising:
transferring heat from said heat source to a first plurality of fibers having cross sectional diameters of less than about 1 micron;
transferring heat from said first plurality of fibers to a second plurality of fibers having cross sectional diameters of more than about 3 microns; and
transferring heat from said second plurality of fibers to a heat sink.

10. A thermally conductive gasket comprising:

a plurality of fibers having first and second ends, said fibers being predominantly aligned such that said first ends are positioned adjacent to a first face of said gasket and such that said second ends are positioned adjacent to a second face of said gasket;

a material located predominantly proximate to said first ends, said material improving heat transfer between said first ends and a device in contact with said first face.

10 11. The gasket of Claim 10, wherein said fibers have a diameter of more than about 3 microns, and wherein said material comprises a plurality of nanofibrils having a diameter of less than about 1 micron.

12. The gasket of Claim 10, wherein said material comprises a material which has a melting point between approximately 30 degrees C and 100 degrees C.

13. The gasket of Claim 12, wherein said material comprises a material
15 which has a melting point between approximately 40 degrees C and 70 degrees C.

14. A method of enhancing the performance of a thermally conductive gasket made from a plurality of predominantly aligned carbon fibers having diameters of more than approximately 3 microns, said method comprising placing a plurality of nanofibrils having diameters of approximately 1 micron proximate to at least some tips of said predominantly aligned carbon fibers.

15. The method of Claim 14, wherein at least some of said nanofibrils comprise multi-walled nanotubes.

16. A thermally conductive gasket comprising a central support and a plurality of nanofibrils extending from each major surface thereof, wherein at least some of said nanofibrils have a diameter of less than about 1 micron.

17. The gasket of Claim 16, wherein at least some of said nanofibrils comprise multi-walled nanotubes.